

# M-21 Expeditionary Arresting Gear System



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This Presentation is:  
UNCLASSIFIED



# ELO's

- Without the aid of references identify the three main assemblies of the M-21 arresting gear system
- Without the aid of references state the hydrodynamic principle that enables the M-21 arresting gear system to arrest an aircraft.





# General Description



- Used since the early 1960's
- Designed for EAF operations
- High cycle ops
- All tail hook equipped aircraft





# Description

- Arrestor engine assembly
- Retrieve drive assembly
- Deck pendant assembly/Pendant supports



# Arrester Engine Assembly

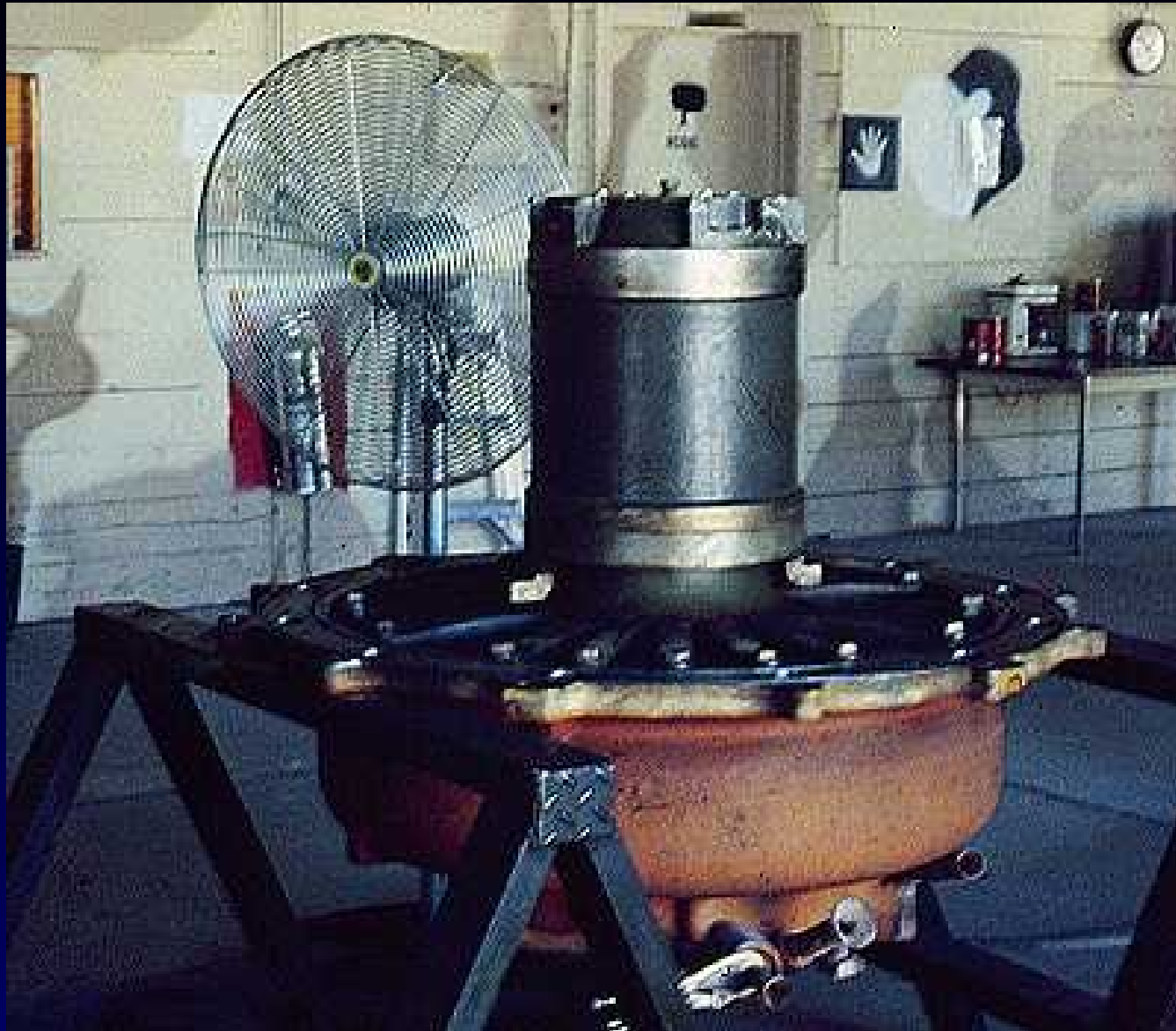


- Base assembly
- Friction brake
- Reel assembly
- Sheaves
- Tight wrap pressure arm

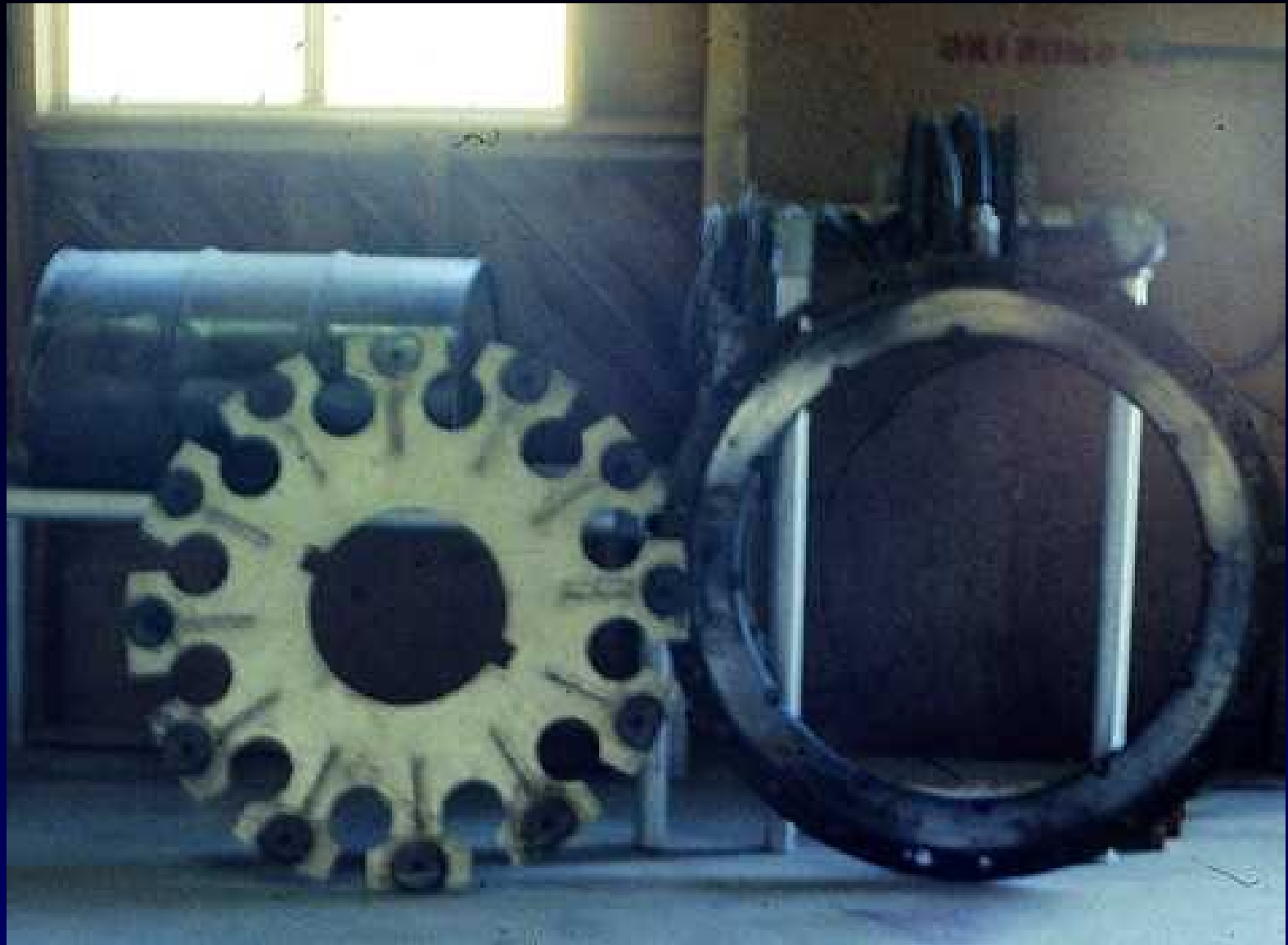
# Base Assembly



# Absorber



# Friction Brake



# Reel Assembly



**Reel w/Tape**

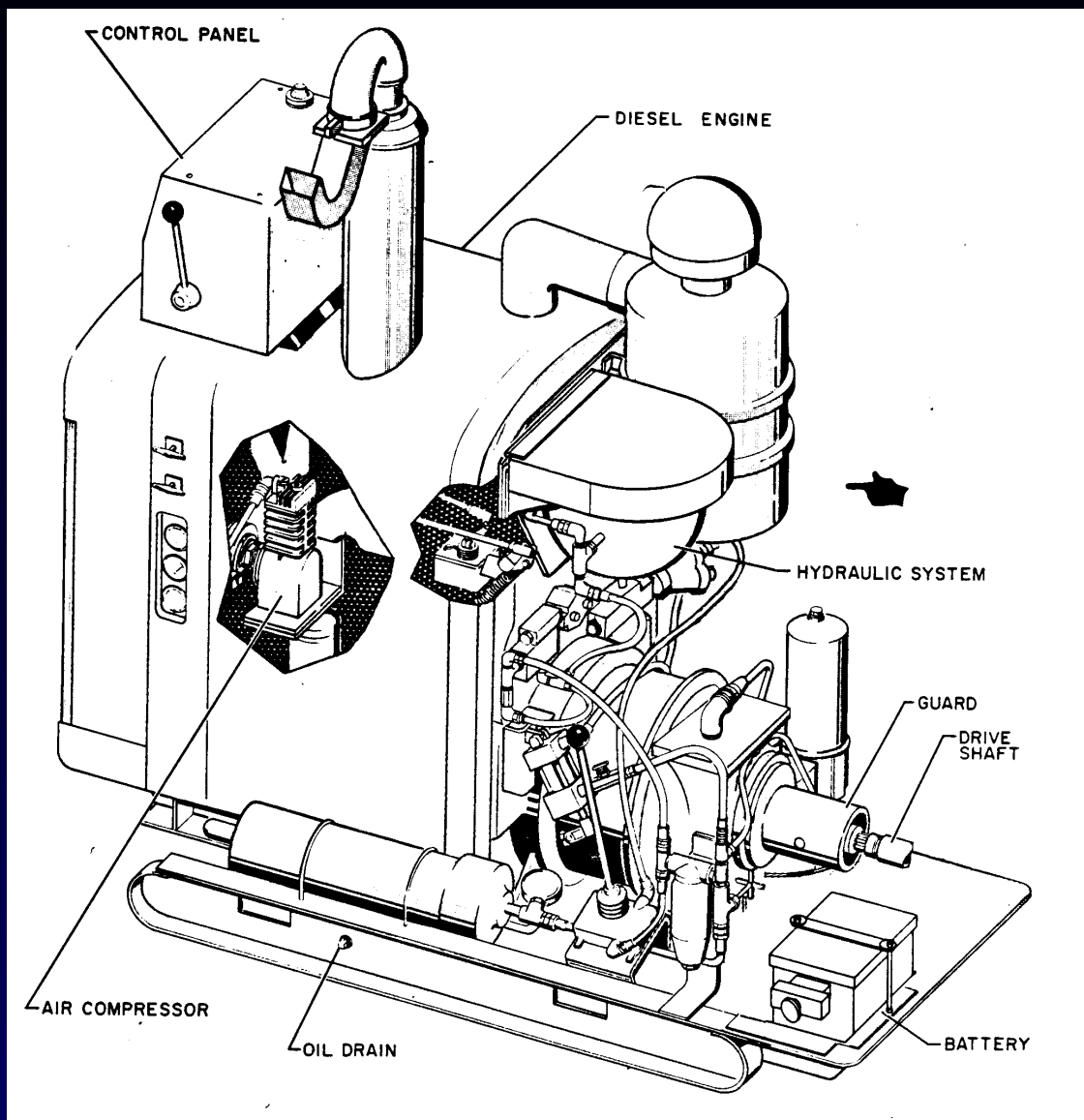
# Sheave & TRP Arm





# Retrieve Drive

- Diesel engine
- Hydraulic system
- Air compressor







# Modes of Operation

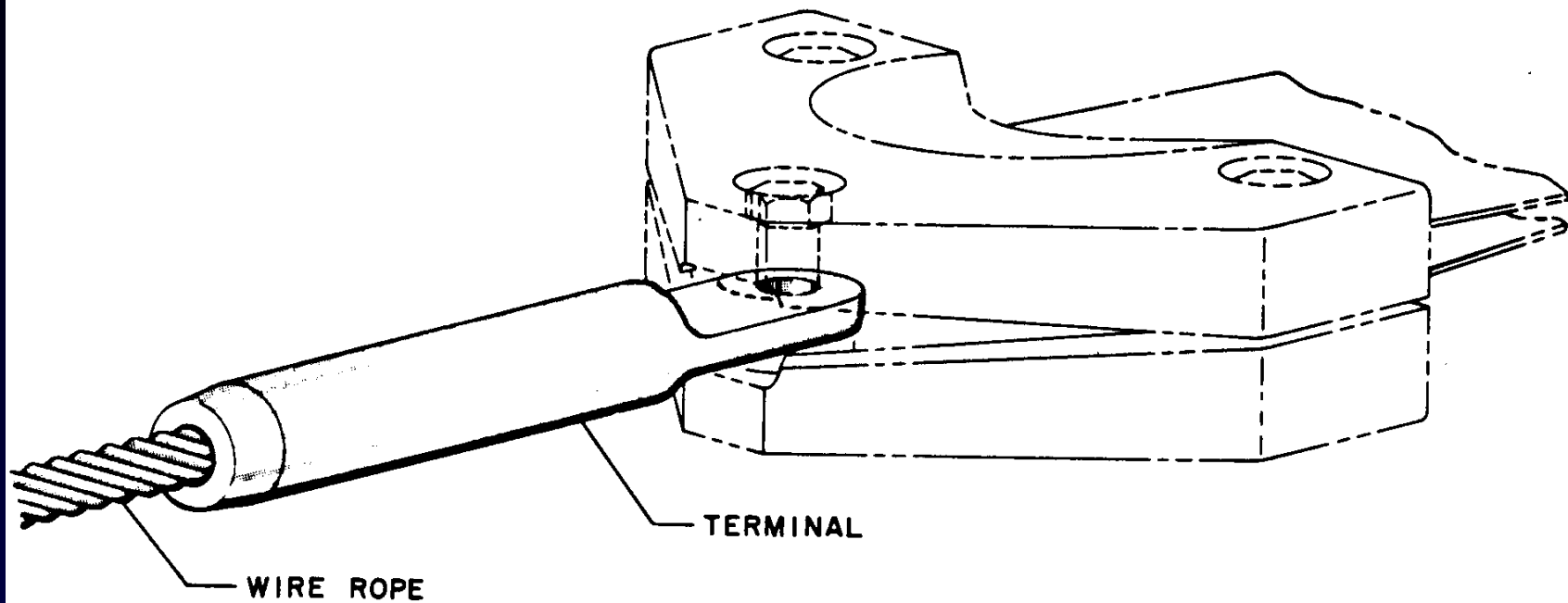


- Arrest
- Retrieve
- Stop
- Manual Retrieve



# Deck Pendant

- Connects the two arrester engines
- 1 1/4 inch diameter non rotating wire rope
- 50 arrestments below 160 knots
- 1 arrestment above 160 knots



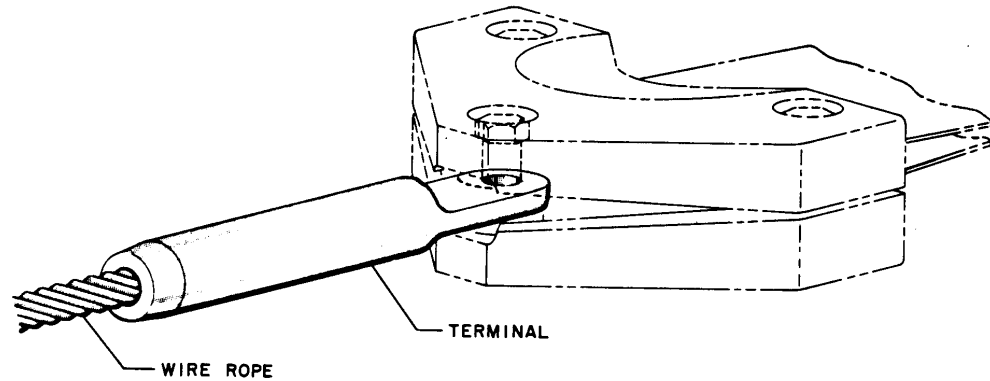
***Figure A1-14. Deck Pendant***



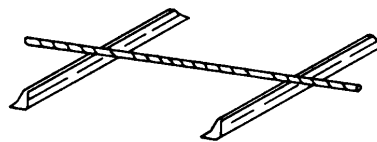
# Pendant Support Assembly



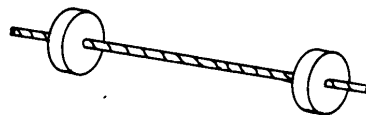
- Yielding elements
- Donuts
- Tire supports
- Modified Yielding elements preferred for short term ops



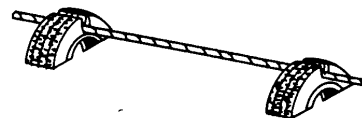
*Figure A1-14. Deck Pendant*



POLYURETHANE WIRE SUPPORT



DONUT WIRE SUPPORT



TIRE SUPPORTS





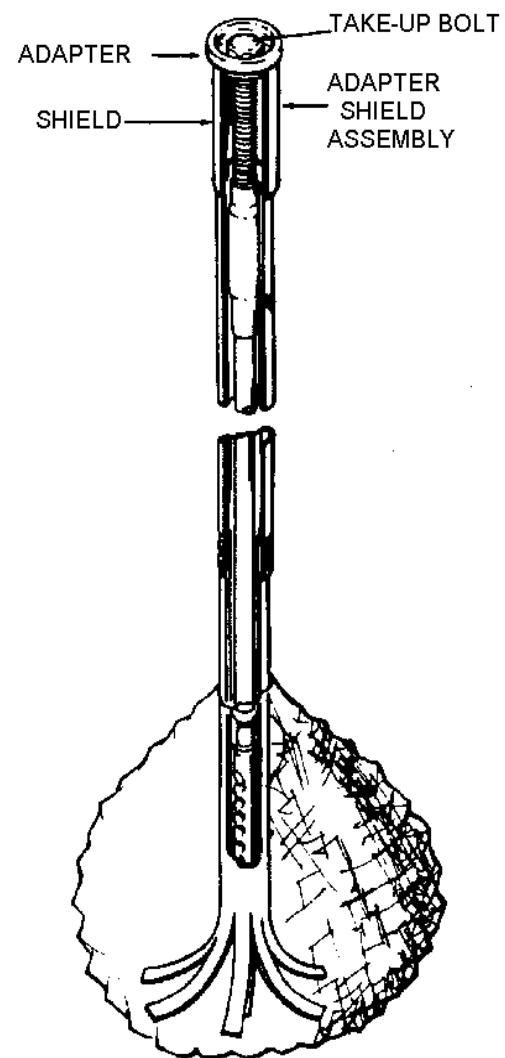
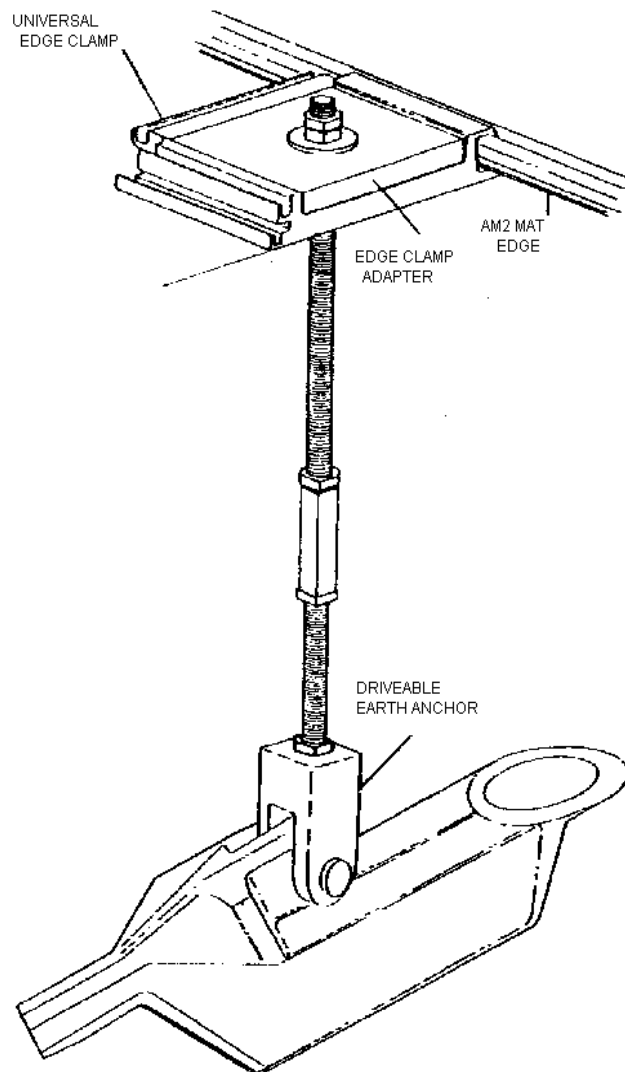


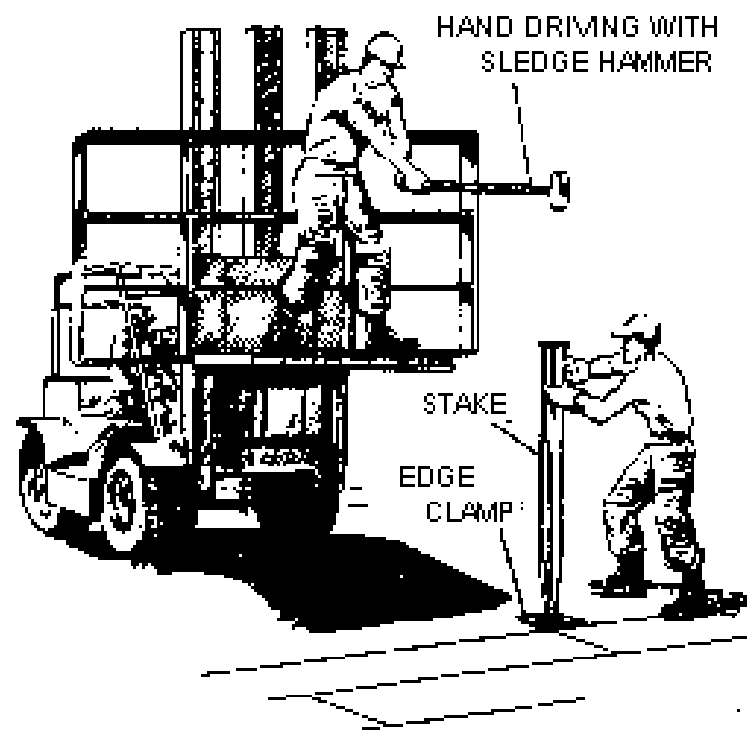
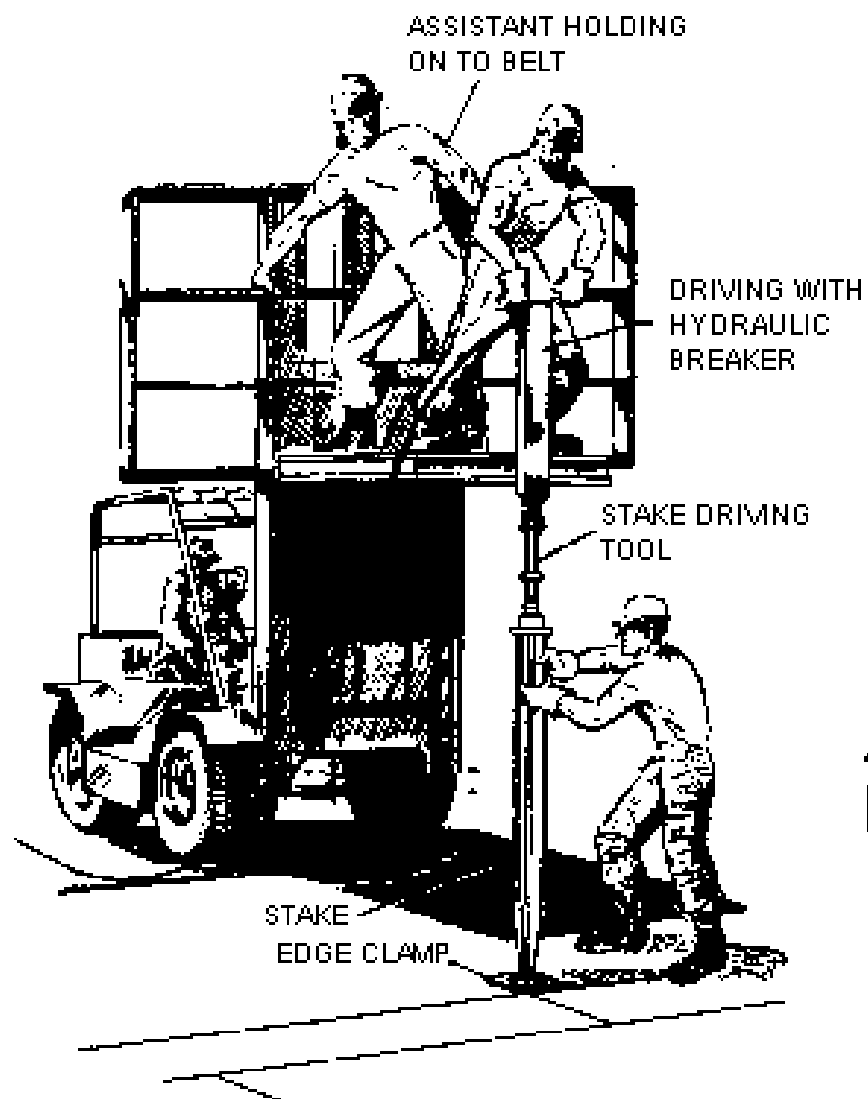
# Anchoring Systems

- Aprons
- Cruciform stakes
- LEA's
- DEA's
- Support tubes



















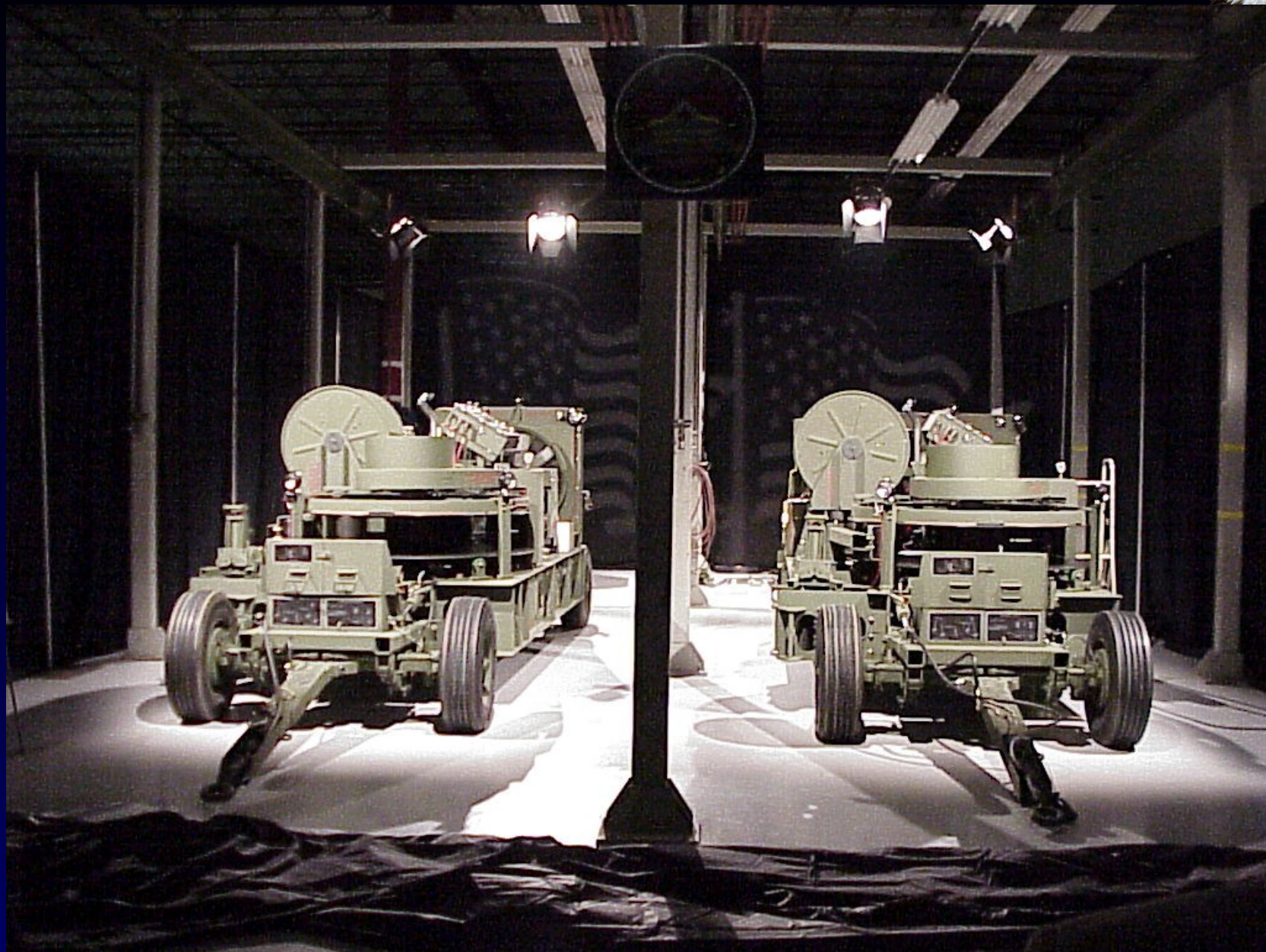




# The Future of Arresting Gear

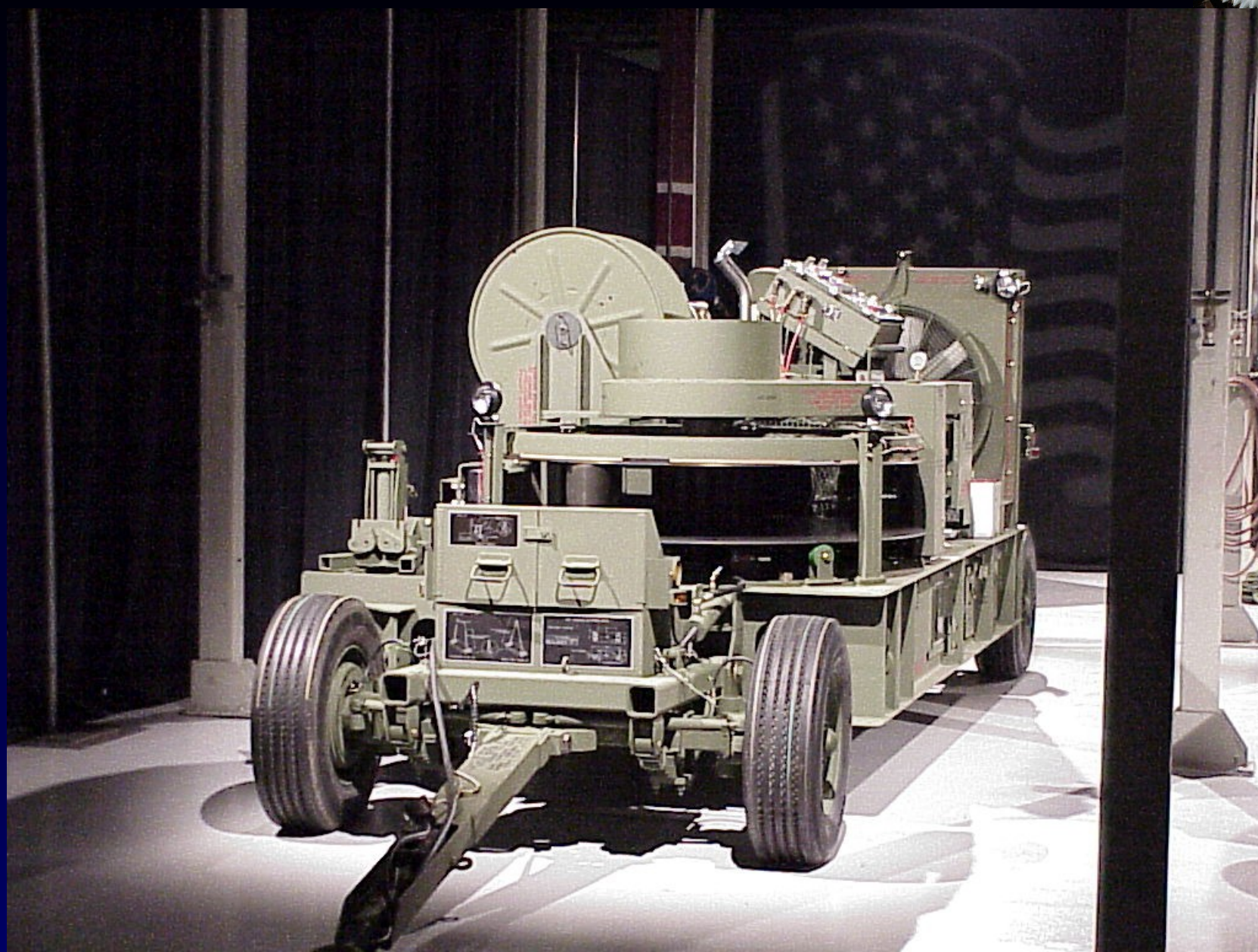
## M-31

- Capable of handling all tailhook aircraft
- Installs within 4 hours
- Easily deployable
- Road transportable



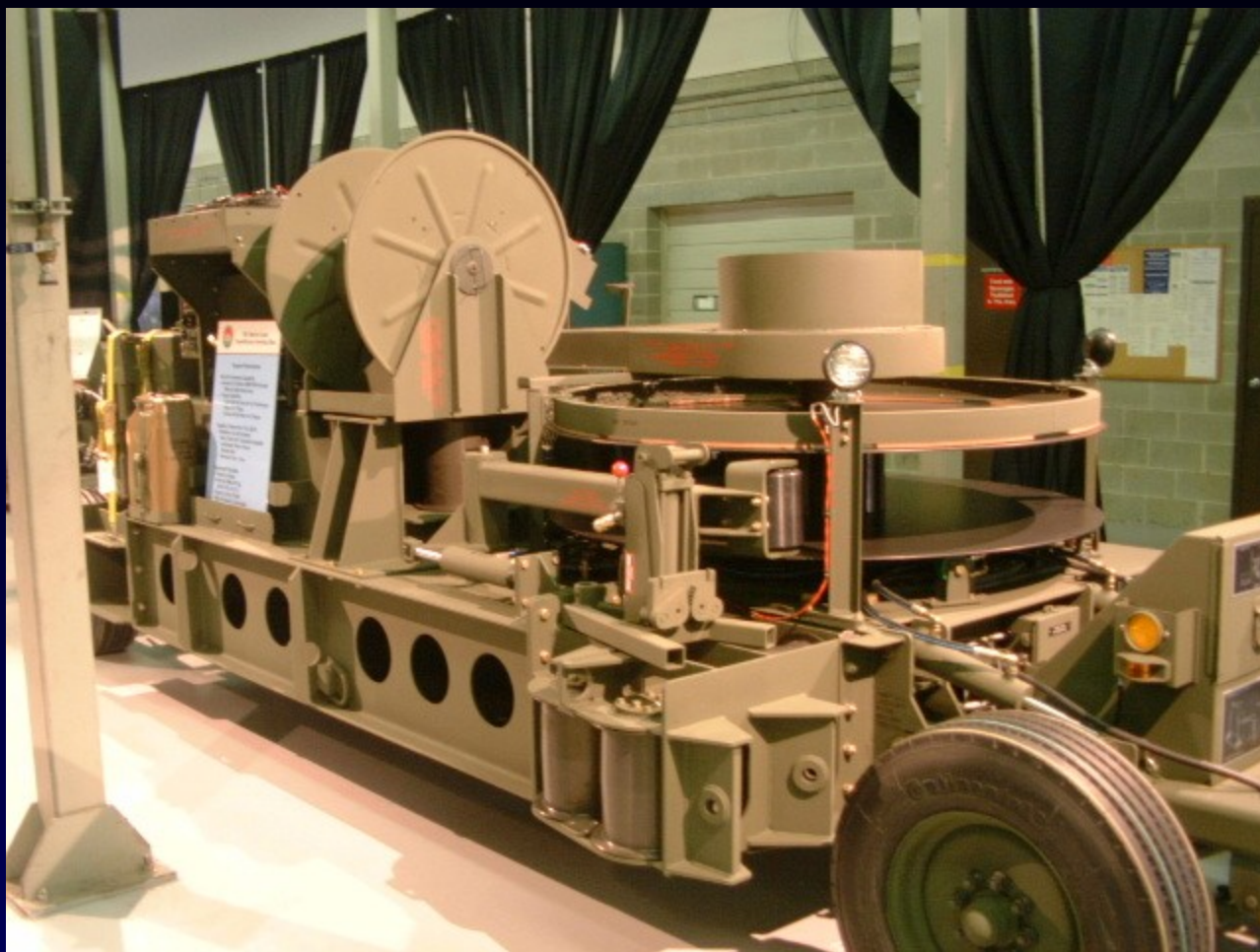




















# Summary

- Arrestor engine assembly
- Retrieve drive assembly
- Deck pendant assembly and Pendant supports
- Anchoring systems



# **“Questions”**